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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,172	09/06/2000	Yung-Hui Chen	06720.0061	8931
22852	7590	01/30/2004	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 1300 I STREET, NW WASHINGTON, DC 20005			NGUYEN, THUAN T	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/656,172	CHEN ET AL.
	Examiner THUAN T. NGUYEN	Art Unit 2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-31 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 September 2000 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) Interview Summary (PTO-413) Paper No(s) ____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: ____

DETAILED ACTION

Election/Restriction

1. Applicants selects group I from claims 1-31 for examination without traverse in paper no. 5 (11/06/03).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

After carefully studied the present application, the Examiner believes that the entire application is about applying an RF signal (RF/IN) at a single end of a mixer in order to obtain IF signals at the outputs as IF+ and IF- (Figs. 8-14). The process is known in the art as “downconverting” not “upconverting”; and an apparatus or a device doing this process should be called “a downconverter” instead of “an upconverter” as claiming throughout the specifications and claim languages. Because IF signals or intermediate frequency signals are signals having lower frequency than the RF signals or radio frequency signals, the device can not be referred to as “an upconverter” for creating an opposite meaning of what it exactly does. Please refer to the attached Tiller reference (col. 1/lines 5-19, Fig. 4, and col. 5/lines 7-13) for the Examiner’s basis

of support/statement. The entire application including the claim languages should be revised or corrected properly.

The Examiner holds the art rejection process until this matter can be resolving appropriately later on because of conflicting concepts of the present application as stated and of the claim languages, as for claims 1, 7, 13, 20, 29, and 31 call for an upconverter providing an output at a higher frequency than the input signal, but in fact, the input signal is RF/IN which eventually has a higher frequency than the output IF signals.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Tiller (US Patent 6,529,721 B1) discloses a low noise mixer with a same technique as the present application.

Bertonis et al. (US Patent 6,625,222 B1), Dougherty et al. (US Patent 5,465,420), and White et al. (US Patent 6,631,257 B1) disclose mixers related to upconverting and DC control signals.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306, (for Technology Center 2600 only)

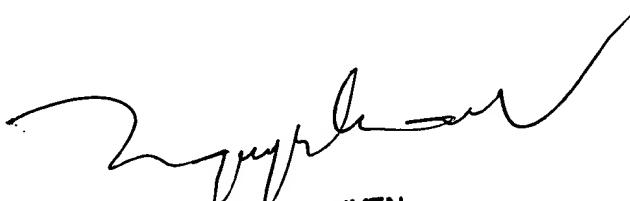
*Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).*

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (703) 308-5860. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.



TONY T. NGUYEN
PATENT EXAMINER

Tony T. Nguyen
Art Unit 2685
January 19, 2004

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

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See attachments